IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
LUFKIN DIVISION

ALLURE ENERGY, INC.,	§	
	§	
Plaintiff,	§	
	§	CIVIL ACTION No. 9-13-CV-102
v.	§	
	§	JUDGE RON CLARK
NEST LABS, INC., et al.,	§	
	§	
Defendants.	§	

ORDER CONSTRUING THE "ENCODED LOGIC" TERM OF UNITED STATES PATENT NO. 8,442,695

Plaintiff Allure Energy, Inc. sued Defendants Nest Labs, Inc., Green Mountain Energy Co., and Reliant Energy Holdings, LLC (collectively "Defendants"), alleging infringement of United States Patent No. 8,442,695, as well as two other patents. On November 6, 2014, the court conducted a *Markman* hearing to assist in interpreting the meanings of ten disputed claim terms in the patents-in-suit.[1] Because determining whether the "encoded logic" term in the '695 is a means-plus-function term, and if so, whether sufficient structure is disclosed, is dispositive as to that patent, the court sets out its ruling on that term separately in this Order.

In spite of the presumption that §112 ¶ 6 does not apply because "means" is not used, the court concludes that the presumption is overcome. Since sufficient structure is not disclosed in the claim or the specification, the claim is indefinite.

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[1] The transcript of the November 6, 2014 *Markman* hearing contains a number of representations by and agreements of the parties, as well as answers by their experts to technical questions from the court, all of which will not be repeated here, but which may assist in understanding the issues presented. This Order governs in the event of any conflict between the Order and the court's preliminary analysis at the hearing. Several Court's Exhibits were discussed at the hearing and are part of the record at Doc. # 140. These exhibits will be cited in this Order at "Ct.'s Ex."

I. Patent Background and Technology

The patents-in-suit share a specification and claim priority to two provisional patent applications. U.S. Provisional Patent Application Series No. 61/255,678 (filed Oct. 28, 2009); U.S. Provisional Patent Application Series No. 61/235,798 (filed Aug. 21, 2009). The '695 patent relates generally to a thermostat that actively learns a user's personalized schedule and automatically adjusts temperature settings in response to a user's behavior and preferences to yield energy savings.[2]

II. Claim Construction Standard of Review

Claim construction is a matter of law. *Markman v. Westview Instruments, Inc. (Markman II)*, 517 U.S. 370, 388-91, 116 S. Ct. 1384, 1395-96 (1996). "Because the patentee is required to 'define precisely what his invention is,' . . . it is 'unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.'" *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*) (quoting *White v. Dunbar*, 119 U.S. 47, 7 S. Ct. 72, 75 (1886)).

Words in a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art in question as of the effective filing date of the patent application. *Id.* at 1313. However, a patentee may demonstrate an express intent to impart a novel meaning by redefining a term "with reasonable clarity, deliberateness, and precision" in the patent specification or prosecution history. *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). A patentee may also limit scope by an express disclaimer or disavowal. *Phillips*, 415 F.3d at 1316.

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[2] To aid the court in understanding the technology, the court appointed Dr. Frank Shipman as a technical advisor. Doc. # 119. Dr. Shipman received his doctorate in computer science from the University of Colorado in 1993. He also has an M.S. in computer science from the University of Colorado and a B.S. in Electrical Engineering from Rice University. He has been on the faculty of Texas A&M University since 1995, where his research interests include intelligent user interfaces, hypertext, computers and education, multimedia, new media, computers and design, computer-human interaction, and computer-supported cooperative work. More information about his publications and awards may be found on his curriculum vitae, which is available at http://www.csdl.tamu.edu/~shipman/vitae.pdf.

The intrinsic evidence, that is, the patent's specification and, if in evidence, the prosecution history, is important in claim construction. *Id.* at 1315-17. A court may also review extrinsic evidence, such as dictionaries, inventor testimony, and learned treatises. *Id.* at 1317. However, extrinsic evidence should be considered in the context of the intrinsic evidence in order to result in a reliable interpretation of claim scope. *Id.* at 1319.

III. Person Having Ordinary Skill in the Art

A person having ordinary skill in the art at the time of the invention ("PHOSITA") is neither the judge nor a layperson, nor a genius. *Envtl. Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983). The qualifications or viewpoint of the inventor do not define the PHOSITA. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420, 127 S.Ct. 1727, 1742 (2007); *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 956 (Fed. Cir. 1997). Rather, the court considers such factors as the sophistication of the technology, the rapidity with which innovations are made, and the educational level of active workers in the field. *Envtl. Designs*, 713 F.2d at 696.

The parties agreed to following definition of PHOSITA, as discussed at the preliminary injunction hearing. Doc. # 136, p. 20. A PHOSITA would have:

> at least 4 years of experience in the field of energy management and control systems, or have a Bachelor's of Science degree in mechanical or electrical engineering and at least 2 years of experience in the field of electronic and

> mechanical systems related to energy management and control systems. Additional education might substitute for some of the experience and substantial experience might substitute for some of the educational background.

See Ct.'s Ex. 1.

IV. Claim Construction for "encoded logic" – Claim 1

Claim 1 is the only independent claim of the '695 patent, and states in part:

> **1.** A temperature controlling apparatus, comprising:
> . . . .
> encoded logic configured to be used by the processor to
>   process the multiple inputs and determine a schedule
>   and determine whether to display the energy savings
>   settings icon based on the determined schedule;

Defendants argue that this claim phrase is subject to a means-plus-function analysis pursuant to 35 U.S.C. § 112, ¶ 6. Plaintiff counters that this term does not include "means," and that the presumption that it is not a means-plus-function term cannot be overcome.

Determining the applicability of 35 U.S.C. § 112, ¶ 6 is a two-step process. First, the court must "determine if the claim limitation is drafted in the means-plus-function format." *Robert Bosch, LLC v. Snap-On, Inc.*, 769 F.3d 1094, 1097 (Fed. Cir. 2014). If so, the court then proceeds to "the second step and attempt[s] to construe the disputed claim term by identifying the 'corresponding structure, material, or acts described in the specification' to which the claim term will be limited." *Id.* (citing *Welker Bearing Co. v. PHD, Inc.*, 550 F.3d 1090, 1097 (Fed. Cir. 2008)).

As to the first prong, the failure to use the word "means" in a claim term creates a strong, but rebuttable, presumption that the drafter did not intend to invoke 35 U.S.C. § 112, ¶ 6. *EnOcean GmbH v. Face Intn'l Corp.*, 742 F.3d 955, 958 (Fed. Cir. 2014); *Flo Healthcare Solutions, LLC v. Kappos*, 697 F.3d 1367, 1373 (Fed. Cir. 2012). "[A] limitation lacking the term ‘means’ may overcome the presumption against means-plus-function treatment if it is shown that ‘the claim term fails to recite sufficiently definite structure . . . for performing that function.’” *Flo Healthcare Solutions,* 697 F.3d at 1373 (quoting *Mass. Inst. of Tech. v. Abacus Software,* 462 F.3d 1344, 1353 (Fed. Cir. 2006)). However, the presumption is a strong one that is not overcome "without a showing that the limitation essentially is devoid of anything that can be construed as structure." *Flo Healthcare Solutions*, 697 F.3d at 1374 (citing *Masco Corp. v. United States*, 303 F.3d 1316, 1327 (Fed. Cir. 2002)).

“The question is whether the claim language names particular structures or, instead, refers only to a general category of whatever may perform specified functions.” *Bosch*, 769 F.3d at 1099. In dealing with computer implemented inventions, traditional notions of structure do not necessarily apply. Rather, to one of skill in the art, the ‘structure’ of computer software may be expressed by an algorithm in any understandable form, including a mathematical formula, in a prose set of rules or instructions, or a flow chart. *See Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008).

Here, the claim language itself provides no structure for the “encoded logic.” Rather, it simply describes its functions: the encoded logic takes multiple inputs and uses them to create a schedule and determine whether to display the energy savings icon. ‘695 patent, 62:61-64. “Encoded logic” is not a term applied to a known structure, such as a “circuit” or a term commonly defined in technical dictionaries. *See Comprehensive Dictionary of Electrical Engineering* 233 (Phillip A. Laplante ed., 2nd ed. 2005) (providing no definition for “encoded logic”); *IEEE 100: The Authoritative Dictionary of IEEE Standard Terms* 379 (7th ed. 2000).

Likewise, tasks such as “determine a schedule” and “determine whether to display the energy savings settings icon” are not tasks that all, or even most, processors perform as a matter of course, such as “process,” “receive,” or “store” data. *See In re Katz Interactive Call Processing Patent*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). Whatever “encoded logic” is, it must be given some instruction or programming. But the claim does not set out how the “encoded logic” is “used by the processor to process” the inputs, or how a schedule is created, or what determines whether the icon is displayed.

In the first prong of the analysis, the court must also review the patent to determine whether the specification clarifies, or gives a meaning to, words or phrases such that the claim language, read in light of the specification, recites sufficient structure. *Bosch*, 769 F.3d at 1097. The specification gives the following definitions, or examples, of “encoded logic”:

a. “including software, firmware, hardware, or other forms of digital storage mediums, computer readable mediums, or logic, or any combination thereof, operable to provide all, or portions of the method of Fig. **3**.” ‘695 patent, 17:6-10;

b. “such as a ROM, PROM, EPROM, EEPROM, or various combinations thereof”). ‘695 patent, 23:40-41:

c. “[s]erver **602** can also use any combination of software modules, firmware, encoded logic, or any combination thereof to manage energy use.” ‘695 patent, 35:7-9;

d. “various types of encoded logic including software, firmware, hardware, or other forms of digital storage mediums, computer readable mediums, or logic, or any combination thereof.” ‘695 patent, 56:59-63.

Applying these descriptions to the term “encoded logic” in the claim does not provide structure; it merely equates encoded logic to various, indeed perhaps to all conceivable, types of computers, unloaded software, firmware, types of memory,[3] and even mechanical devices without software, such as a "Turing machine." Given the lack of structure in the claim language, even as read in light of the specification, this term overcomes the strong presumption against the applicability of 35 U.S.C. § 112, ¶ 6. *Apple, Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1300 (Fed. Cir. 2014).

Turning to the second prong of the analysis, the court must review the specification for a corresponding structure. *See Apple*, 757 F.3d at 1296. "A patentee cannot avoid providing specificity as to structure simply because someone of ordinary skill in the art would be able to devise a means to perform the claimed function." *Blackboard, Inc. v. Desire2learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009). To do so would be to confuse the means-plus-function analysis with an enablement analysis.

There is a difference between claims for a computer or software that performs specialized functions, and claims teaching a general purpose computer function liking storing or processing. *In re Katz*, 639 F.3d at 1315-16. The public notice function of 35 U.S.C. § 112, ¶ 2 requires claims that include a specialized function to be accompanied by a description of the structure that is to perform it. *Id.* at 1315. The specification in this patent contains no description of an embodiment that, for example, uses the median temperature, the average temperature, the highest temperature when cooling and the lowest when heating, or a myriad of other possibilities. There is no indication of how a schedule will be determined, and if one is, what factors or formula will determine whether to display an icon.

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[3] ROM, PROM, EPROM, EEPROM are simply acronyms for types of memory. *Comprehensive Dictionary of Electrical Engineering* 231, 547, 574 (2nd ed. 2005).

In short, the court can discern no mathematical formula, no flowchart, and no prose recitation of how the encoded logic is to process inputs, to determine a schedule, or to determine when to display an icon. When asked, Plaintiff's counsel could not point to one. Rough Transcript of Hearing, p. 112.

Counsel mentioned the specification's discussion "in connection with Figure 10." Rough Transcript of Hearing, p. 127. Figure 10 is discussed at '695 patent 44:66 – 49:5. There are numerous examples of inputs chosen and entered by the user, and schedules created by a user using a "scheduling tool **1012**," but no description of how "encoded logic" whether it be a general purpose computer, naked hardware, orphan software, or some combination of these, determines a schedule or whether to display an icon.

Counsel also referred to "Column 31 line 62 as an example" of factors to be used. But this paragraph simply outlines special functions to be performed without any indication as to how they are to be performed. Sufficient structure is not denoted by merely describing the proverbial "black box" into which any imaginable input can be entered, and out of which any desired result will appear.

V. Conclusion

Neither the claim itself, nor the specification, describe sufficient structure to fulfill the public notice function required by 35 U.S.C. § 112, ¶ 2. By claiming virtually every conceivable form of processor, hardware, and software, to perform specialized functions, without disclosing structure in some form of an algorithm, Claim 1 is overly broad, violates the limits placed on means-plus-function claims by 35 U.S.C. § 112, ¶ 6, and is therefore indefinite.

So **ORDERED** and **SIGNED** , November 22, 2014.

Ron C Clark

Ron Clark, United States District Judge